/ 245.6 mils UTM GRID AND 1991 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET by William L. Auby

UTAH QUADRANGLE LOCATION

PROVISIONAL GEOLOGIC MAP OF THE LEVAN QUADRANGLE, JUAB COUNTY, UTAH

1991

DESCRIPTION OF MAP UNITS

Spring tufa — Pink to pinkish-gray, coarsely crystalline limestone. Forms a thin coating on older deposits.

Qal₁ Younger alluvial deposits — Reddish-brown or very light-gray, stratified, poorly sorted clay- to cobble-sized sediment. Found in major canyons, currently being dissected.

Alluvial gravel deposits — Pebble- to cobble-sized quartzite and limestone clasts mixed with sand and silt. Occur in small patches elevated 80-100 feet (24-30 m) above stream level.

Qalc (1, 2)
Qaf (1, 3)

Alluvial fan deposits — Poorly sorted clay, silt, sand, gravel, and boulders that reflect local sources. Coalesced alluvial fans along the main mountain front are denoted by "Qacf"; single fans at mouths of tributary canyons are denoted by "Qaf." The numbers differentiate three ages of alluvial fans. The oldest (Qaf3) occur as elevated erosional remnants at the edge of Juab Valley about 40 feet (12 m) above the current stream elevation. All mapped intermediate-age fans are coalesced (Qafc2) and extend far out into Juab Valley. The youngest alluvial fans occur as coalesced fans along the edges of Juab Valley (Qafc1) and as single fans in the major canyons (Qaf1).

Alluvium and colluvium — Sand, silt, and clay washed from adjacent slopes, with a large colluvial component. Covered with brownish-black or grayish-brown soil. Found in small depressions or on gentle slopes.

Older alluvial deposits — Poorly sorted clay- to cobble-sized sediment more elevated than Qal.

Talus deposits — Angular, blocky fragments deposited on or at the base of steep slopes; commonly cobble to boulder sized, but ranging up to very large blocks.

Fourmile Creek landslide complex — Extremely poorly sorted clay- to boulder-sized material deposited as slumps, land-slides, and debris flows. Characteristically have a hummocky topography, are heavily vegetated and soil covered. Derived from the Salt Creek Fanglomerate (Qms(s)), the Golden's Ranch Formation (Qms(gr)), and the Arapien Shale (Qms(a)). Similar to other landslide deposits.

Landslide deposits — Extremely poorly sorted clay- to bouldersized material deposited as slumps, landslides, and debris flows. Characteristically have a hummocky topography, are heavily vegetated and soil covered.

Remnant debris-flow deposit — Silt to cobble-sized detritus

QTs

Salt Creek Fanglomerate — Light red with associated reddish soil cover. Gravel consisting of well-rounded quartzite and limestone clasts, locally cemented and interbedded with sandstone. Quartzite clasts are white, light brown, reddish

from the Flagstaff Limestone.

Tmsc

and purplish. Limestone clasts are dark gray and commonly contain Paleozoic fossils.

Slide block consisting of Cedar Mountain Formation.

Ts

Levan monzonite suite — Shallow intrusive rock consisting of monzonite porphyry (Tmp), white leucomonzonite (Tlm) and dark gray syenite (Ts) that forms stocks, dikes and sills.

Monzonite porphyry contains 30-35% phenocrysts consisting of hornblende, orthoclase, plagioclase, biotite and magnetite. Leucomonzonite contains 5-7% phenocrysts consisting of plagioclase, orthoclase, biotite and magnetite. Syenite consists of 50% orthoclase, 25% biotite, 13% plagioclase, 7% magnetite and 2% quartz.

Tgr Goldens Ranch Formation — Light gray with medium- to darkgray clasts. Gravel consisting of volcanic clasts and minor quartzite and limestone clasts. Locally cemented and bedded with volcanic sandstone.

Volcaniclastic rocks of unknown affinity — Greenish-gray volcanic sandstone and volcanic conglomerate. Weathers to grayish-purple. Conglomerate contains clasts of quartzite, chert, sandstone and volcanic rocks. Sandstone has a chlorite matrix.

Green River Formation — Medium-gray limestone and lightgray mudstone with interbedded, "tawny" limestone, sandstone, siltstone and conglomerate. Limestone is commonly sandy, micritic, fossiliferous and oolitic. Sandstone commonly found as channel fill and exhibits cross-bedding and scour and fill structures.

Flagstaff Limestone — Yellowish-gray, interbedded, sandy limestone and calcareous mudstone. Limestone is micritic and commonly contains stromatolites, oncolites, root casts and chert nodules. Mudstone is commonly silty.

North Horn Formation — Light gray and yellowish-gray, interbedded mudstone, sandstone, and minor amounts of conglomerate.

Indianola Group — Reddish-brown and light gray, massive, cliff-forming conglomerate consisting of cobble- to boulder-sized clasts of quartzite and limestone. Yellowish-brown and light gray sandstone, fine to coarse grained and locally ferruginous. Minor amounts of reddish-orange siltstone and red mudstone. Very rare limestone.

Cedar Mountain Formation — Interbedded reddish-orange siltstone and reddish-brown, fine- to coarse-grained sand-stone. Minor amounts of conglomeratic sandstone and limestone. Cantains limestone nodules and polished chert pebbles.

Twist Gulch Formation — Interbedded pale reddish-brown siltstone and sandstone with minor amounts of conglomerate and mudstone. Sandsttone is thin to medium bedded and fine grained.

Arapien Shale — Light olive gray and light gray, argillaceous micrite and calcareous mudstone, platy and laminated bedding. Forms weathered slopes. Contains lenses of gypsum and red mudstone. Interbedded yellowish-gray sandstone and siltstone in upper 1/4 of unit, ledge-forming

Jag Gypsum deposits in the Arapien Shale — Lenses and beds of pale gray to white massive gypsum. Predominantly rock gypsum, but selenite and siatin spar occur.

Jtc Twin Creek Limestone — Shown only on the cross section.

Jn Navajo Sandstone — Shown only on the cross section.

Triassic rocks, undifferentiated — Shown only on the cross section.

CORRELATION OF MAP UNITS MAP SYMBOLS



